

REMARKS

In response to the Office Action mailed on March 22, 2007, Applicants have amended Claims 2, 4, 6 – 10, 12, 14, 19 – 23, 26 – 31 and 33 - 37 and added new Claim 39. Claims 2, 4, 6 - 10, 12, 14 and 19 – 39 are pending in the subject application and presented for consideration.

In the subject Office Action, all pending claims were again rejected for being unpatentable over various prior art references. Claims 2, 4, 6, 7, 8 and 36 were said to be anticipated by USPN. 4,471,976 to Giulie. Claims 2, 4, 6, 7, 8, 9, 12, 14, 19 – 21 and 36 – 38 were said to be anticipated by USPN. 4,800,110 to DuCorday. Claims 2, 4, 6, 7, 10, 12, 14, 20 – 23, 26 – 29, 33 and 34 – 38 were said to be anticipated by USPN. 4,371,195 to Wang. Claims 10 and 26 were said to be obvious over DuCorday in view of either USPN. 4,247,273 to Pogrzebra or USPN. 4,612,230 to Liland. Claims 22 – 28 and 30 – 35 were said to be obvious over DuCorday in view of Wang. Claims 2, 4, 6 – 10, 12, 14 and 19 – 38 were rejected for being obvious over prior art mentioned in the subject application (ADPA) in view of either Pogrzebra or Liland. All of these rejections are respectfully traversed.

As noted in the previous Response to Rejection Mailed On May 31, 2006 and as explained in detail in the subject application, a primary objective of the present application is to provide a binder strip having reduced transverse curl. A key part of the curl reduction is the introduction of mechanical deformations in the heat-activated adhesive after the adhesive has been applied to the substrate in molten form and permitted to cool. As explained in the subject application and as argued repeatedly during prosecution, this sequence produces a binder strip having mechanical properties that differ from the prior art binder strips. This difference in mechanical properties is a result of structural differences between the claimed binder strips and that of the prior art.

All of the six independent claims presented earlier (and presented here), with the exception of Claim 19 to be addressed later, contained limitations regarding the sequence of adhesive cooling and mechanical deformation. In rejecting these claims

in the May 31, 2006 Office Action, there was not a single mention of this limitation – it was ignored without explanation other than the following cryptic statement:

“The structure implied ... [by the claimed cooling/deforming sequence] is a strip comprising a hot-melt adhesive containing deformities (i.e. specifically grooves and/or punctures), of which is structurally shown in the prior art.”
[Pages 6-7 of May 31, 2006 Office Action.]

Applicants were forced to speculate as to the true grounds of the rejection and concluded that the Examiner was of the view that (1) the sequence does not impart any change in structure to the binder strip as compared to strips made using a different sequence and (2) as a result, no curl reduction was provided by the sequence thereby indicating that the present invention is inoperative.

In order to address this apparent (but unstated) grounds of rejection, Applicants submitted on November 29, 2006 a Declaration of Eugene Anderson Pursuant to Rule 132 (hereinafter “Anderson Declaration”) reporting testing done relating to (1) binder strips having no mechanical deformations [referred to as “category (a) binder strips”]; (2) binder strips having mechanical deformations applied to the adhesive when the adhesive was still molten [referred to a “category (b) binder strips”] and (3) binder strips having mechanical deformations applied after the adhesive is cooled as in the present invention [referred to as “category (c) binder strips”]. As set forth in the Anderson Declaration, and as demonstrated in the samples of category (a), (b) and (c) binder strips provided to the Examiner, there was essentially no curl reduction in the category (a) and (b) binder strips and significant curl reduction in the category (c) binder strips. As further set forth in the Anderson Declaration (§7), the difference in performance between the category (b) and (c) grooved binder strips is attributable to structural differences in the strips.

In the present Office Action mailed on May 22, 2007, the cooling/deformation limitations are again ignored with the following repetition of the earlier rejection:

"With respect to the product by process claims 2, 4, 12, 14, 18, 20 and 22, it must be emphasized that the patentability of the process steps employed to prepare the product. [cited cases] The prior art contains the same structure as recited for the product." [page 3 of Office Action]

Even though Applicants have submitted a Declaration setting forth tests results, and sample binder strips from those tests, which directly contradict the "same structure" statement in the earlier Office Action, the Examiner is simply ignoring the substantive content of the Declaration and repeating this "same structure" rejection. Clearly, the Examiner is of the view that the claimed curl reduction feature is not present – on the other hand, there can be no better evidence of an unexpected and surprising result to establish non-obviousness under §103 than this skepticism on the part of the Examiner.

The further comment in the Office Action that "[n]o specific matter of degrees are shown to distinguish these relative terms [used in the Declaration] of 'significantly and substantially.'" [page 8 of Office Action] further muddies the waters. If there is a reduction in curl (any reduction) there is a difference in structure which means all of the "same structure" rejections are improper. It is readily apparent from the samples provided to the Examiner that there is curl reduction, with this reduction leading to the inescapable conclusion that the structures are not the same. The Examiner's continuing evasiveness in these rejections is clearly improper and is preventing Applicants from adequately responding and further preventing Applicants from placing the present application in the best condition possible for appeal.

With respect to the degree of curl reduction, the claim phrases "curling ... is substantially reduced" (Claims 2, 22) and "to substantially reduce curling" (Claim 6) are clearly defined in the subject application beginning at the bottom of page 11 and continuing on page 12 and culminating in equation (1). To remove any possible

doubt regarding the original Anderson Declaration, Applicants are submitting herewith a Supplemental Declaration of Eugene Anderson stating that his use of the phrase "substantially reduced curl" in §(5) of his original declaration was, and is, intended to mean the same as the phrase "substantial reduction [in curl]" as defined in the subject application.

The Examiner further states that original Anderson Declaration "only states, or assumes" that the adhesive deformations are formed after cooling [page 8 of Office Action]. In fact, the Anderson Declaration, made by a person having skill in the present technology (and not mere arguments of counsel), makes very specific statements regarding the cooling/deformation sequence of the prior art references. In the case of Wang for example, reference is specifically made in §(12) of the Anderson Declaration to the Wang patent itself and to part of the description that states that the adhesive pattern cited by the Examiner is applied in molten form "through a conventional hot melt extrusion orifice". If the Examiner does not believe that these portions of the Declaration are persuasive, then the Examiner must give specific reasons so that Applicants can respond. At present they cannot.

Specifically addressing Giulie, and the Claim 2 rejection, the deformations (valleys 17) cited by the Examiner have nothing to do with curl reduction but are for the sole purpose of facilitating folding. As explained in the earlier response and in the Anderson Declaration, the valleys 17 are formed when the adhesive is molten, so that no curl reduction is achieved much less being "substantially reduced" as recited in Claim 2 and as defined in the subject application. Thus, there is no anticipation of Claim 2 by Giulie.

Claim 2 has been amended to recite that the substrate is bounded by a "first pair of substrate edges parallel to a first axis" and a "second pair of substrate edges parallel to the transverse axis" with those edges "being unconnected to any structure separate from the substrate by means other than the heat-activated adhesive". The claim goes on to recite that the molten adhesive is applied "over at least a majority of all of a surface area of the substrate". The adhesive 14 of Giulie covers far less than one-half of the surface area of the elongated strip 12. Further,

it would make no sense to modify Giulie to increase the amount of adhesive to the claimed level – no functionality is provided by increasing the amount of the adhesive in one direction and any increase in the opposite side would increase the capability of the strip 12 to bind a stack 25 of a thickness far too large for the cover 21 to accommodate.

Claims 4, 27 and 36 all depend from Claim 2 and add patentability significant limitations to the claim. By way of example, amended Claim 27 recites that a “first surface of the substrate on which the adhesive is disposed and a second surface of the substrate opposite the first surface, are both substantially entirely smooth substrate surfaces”. Creases 15 of Giulie, present to facilitate folding, demonstrates that there is no “substantially entirely smooth substrate surface in all surface regions opposite [the] deformations”. Further, removal of creases 15 would detract seriously from the functionality of the Giulie device as explained below.

Amended dependent Claim 36 recites that the “mechanical deforming is carried out so that essentially none of the adhesive is removed”. The claim term “essentially” is specifically addressed in MPEP §2173.05(b)B and approved where the specification provides some guidelines. In the present case, examples are provided where the deformations are, in one example, created by slitting the adhesive with a sharp blade (Application at page 10, line 19 et seq). It is apparent that when such slitting takes place, “essentially none of the adhesive is removed”. Although the Anderson Declaration indicates that the valleys of Giulie are created when the adhesive is molten, even assuming that was not the case and given the size of such valleys, they would have to be created by removal of substantial amounts of adhesive.

With respect to the rejection of Claim 2 for being anticipated by DuCorday, as explained in detail in the Anderson Declaration (§11), this reference shows an adhesive formed from a plurality of adhesive “beads” 28 which are formed by extrusion when the adhesive is molten. Thus, the claimed sequence of cooling followed by mechanically deforming is not met. In addition, the DuCorday

"substrate", which includes all of end portion 50 and back cover section 12 (Fig. 1), has only a small fraction of the surface covered by the heat activated adhesive. Thus, "at least a majority of all of a surface area of the substrate" is not covered with the adhesive as claimed. Clearly there is no anticipation by DuCorday.

Again, Claims 4, 27 and 36 all depend from allowable Claim 2 and add patentably significant limitations to the claim. For example, score lines 46 and 48 formed in the DuCorday "substrate" preclude both of the substrate surfaces from being "entirely smooth" as required by Claim 27. In addition, even if it is assumed that grooves 34 and 36 are formed after cooling (they are not), given the size of such grooves, they could not be formed in solid (cooled) adhesive without removal of adhesive. Thus, the "essentially none of the adhesive is removed" language of Claim 36 is not met.

Continuing, it is also clear that there is no anticipation of Claim 2 by Wang. As noted in the Anderson Declaration (§12), the adhesive deformations cited by the Examiner, grooves 23b, 24b are formed by extrusion (Col. 4, line 65 et seq). Thus, the claimed cooling followed by mechanically deforming language is not met. In addition, since the adhesive is only present in the spine region 17 of Wang, the "at least a majority of all of a surface area of the substrate" language is not met.

Referring to dependent claims, the score lines 20 which are present in the substrate surface as shown in all of the figures of Wang indicate that the above-noted language of dependent Claim 27 is not met. Note that Claim 27 requires that "both" of the relevant substrate surfaces be smooth. The prior art, including Wang, shows that one or the other substrate surfaces contains creases, score lines or the like opposite the deformations in the adhesive to facilitate folding along those deformations. The Examiner's statement at page 5 of the subject Office Action that these creases can be eliminated altogether, apparently because the prior art shows the creases on differing sides of the substrate is illogical and certainly not supported by In re Karlson cited in the Action. In that case, the CCPA held as follows:

"It is well settled ... that omission of an element and its function in a combination is an obvious expedient *if the remaining elements perform the same function as before.*" [Emphasis Added 136 USPQ at page 186.]

All of the cited prior art apparatus absolutely require folding in some manner. If they cannot fold, the apparatus are of no use. The creases and the like that the Examiner proposes be deleted (for what reason it is not stated) would greatly detract from the basic functionality of these apparatus to say the least, particularly since the substrates to be folded are typically relatively thick. A more pertinent case is In re Gordon, 221 USPQ 1125 (Fed Cir 1984) which held that a proposed modification of a prior art device is improper if the device being modified is thereby rendered unsatisfactory for its intended purpose.

Continuing, even if it is assumed that grooves 23b, 24b of Wang are formed after cooling (again, they are not), given the geometry of these features, including apertures, they could not be formed in solid (cooled) adhesive without removal of adhesive. Thus, the "essentially none of the adhesive is removed" language of Claim 36 is not met.

Claim 2 was also rejected for being obvious over the prior art binder strip mentioned in the subject application in combination with either Liland or Pogrzeba. As previously noted, given the Examiner's position regarding the absence of curl reduction, it is not known how such curl reduction could be considered obvious. In any event, Liland is directed to a surgical wound closure tape having, among other things, "an increased ability to conform to the skin contours" of the patient due to an increase in "drape" apparently provided by indentations formed in the tape. As indicated by the tests for "drape" at (Col. 5, line 14 et seq), that term is related to the "ability [of the tape] to conform to skin surface contours [of the user so that] once the strip is applied, it tends to not curl at the edges during wear" (Col. 3, line 64 – Col 4, line 2). Needless to say, it is not believed that one of ordinary skill

looking for a solution to a binder strip curl problem would look to Liland for some approach to increase the drape in a binder strip. In any event the indentations 15 of Liland are formed in the substrate 11 and not in the adhesive 14 as claimed.

With respect to Pogrzeba, this reference shows that the edges of a thermo plastic web can be 5 can be treated by stamping both the top and bottom surfaces of the web edges so that the web edges are “cambered” that is, so that the edges of the web are thickened and roughened as recited in Claim 1 of that patent. This procedure of thickening the web edges is said to take the pressure off the center regions of the web (which are not treated) when the web is rolled up on a roll (Col. 1, lines 16 – 25). Thus, at the very most, Pogrzeba teaches that the outer edges of a substrate can be thickened by punching holes in the edges of the substrate on both surfaces. Such action would, of course, totally destroy the functionality of the binding member (holes are not attractive). Further, processing only the edges of a binding member, even if the edges included the adhesive, would have no appreciable effect on curl. The main point, of course, is that a person of ordinary skill in the art would have no reason to resort to Pogrzeba to solve a binder strip curling problem.

Rejected independent Claim 6 also recites the limitations regarding “mechanical deformations which are introduced into the adhesive when the adhesive was in a cooled state and or a nature to substantially reduce curling of the binder member”. Thus, for the reasons noted above in connection with Claim 2, none of Giulie, DuCorday and Wang anticipate this claim. Also for substantially the same reasons noted above regarding the prior art binder strips in view of Liland or Pogrzeba, the subject matter of Claim 6 is clearly non-obvious in view of this prior art.

Claims 7 – 10, 28 – 29 and 35 all depend from allowable Claim 6 and add patentably significant limitations to the claim and are thus allowable for this reason alone. For example, dependent Claim 8 recites that the substrate is bounded by “first and second pairs of substrate edges”, with those edges being “unconnected to

any structure by means other than the heat-activated adhesive". Further, "at least a majority of the first surface of the substrate is covered by the heat-activated adhesive." As a further example, dependent Claim 28 recites that both surfaces of the substrate are "entirely smooth in all of the substrate regions directly opposite the mechanical deformations in the adhesive". Thus, for reasons similar to those set forth above regarding Claim 27, dependent Claim 28 is believed to be patentable in view of the cited prior art.

Amended independent Claim 12 is directed to a binding member formed in accordance with the recited steps. Among other things, this claim recites a sequence where adhesive cooling takes place prior to the mechanical deforming. As noted above in connection with Claim 2, this sequence is not disclosed in the cited prior art. Claim 12 further recites that the adhesive is applied over an "elongated adhesive receiving surface", with that surface along with the substrate surface "directly opposite the adhesive receiving surface being entirely substantially smooth". As noted above in connection with Claim 27, this feature is also not disclosed in the prior art. Continuing, Claim 12 also recites that the "deforming being carrier out so that essentially none of the adhesive is removed". As set forth above regarding Claim 36, if it is assumed that the deformations are added when the adhesive has cooled (which is not the case), then it must be concluded that part of the cooled adhesive was removed to form the deformations.

Claim 39 has been added which is allowable in that it depends from allowable Claim 12 and adds patentably significant limitations to the claim. This claim further recites the "deformations are such that curling of the substrate along the transverse axis is substantially reduced". As noted above in connection with Claim 2, this is not disclosed in the cited prior art.

Independent Claim 14 is directed to a binder strip made in accordance with the recited method which includes the sequence of applying molten, heat activated adhesive followed by "forming a multiplicity of grooves in an exposed surface of the adhesive layer". For substantially the same reasons noted above regarding a similar

limitation in Claim 2, none of the cited prior art discloses this sequence. In addition, Claim 14 now recites that molten adhesive is applied "over at least a majority of a surface of the substrate", with that surface being disposed between "first and second pairs of substrate edges unconnected to any structure separate from the substrate by means other than the heat-activated adhesive". As noted above in connection with Claim 2, none of the prior art discloses this feature either. Further, there is nothing in the prior art that renders the subject matter of this claim obvious. By way of example, the objective of providing a cover for one or both sides of a bound stack would be defeated in both DuCorday and Wang if the substrates were covered to the extent recited in this claim. Similarly, if the Giulie binder element 12 were covered to the extent recited in Claim 14, there would be no advantage gained since such an amount of adhesive would only allow the element 12 to encompass a stack 25 far too thick to be accommodated by folder 21 as previously noted in connection with Claim 2.

Claim 37 depends from allowable Claim 14 and is believed to be allowable for that reason alone. This claim recites that the grooves are formed "so that essentially none of the adhesive is removed". As noted above in connection with Claim 36, the cited prior art teaches that the deformations are formed when the adhesive is molten. However, if it is incorrectly assumed that they are formed when the adhesive is cooled, then such formation must result in removal of a substantial amount of adhesive.

Independent Claim 19 has also been amended and is directed to a binder strip having an "elongated substrate having a length along a longitudinal axis which is greater than a substrate width along a transverse axis". The adhesive includes a "multiplicity of grooves formed in an exposed surface of the adhesive which extend at least 20% of the way through the thickness of the layer of adhesive". Further, the edges of the substrate are "unconnected to any structure separate from the substrate by means other than the heat-activated adhesive, with the adhesive covering at least a majority of all of the surface of the substrate". As noted above in

connection with Claims 2 and 14, none of Giulie, DuCorday or Wang meet the "at least a majority" limitation. Further, the subject matter of Claim 19 is also non-obvious in that there would be no reason to alter the adhesives of these references to meet this limitation and many reasons not to do so.

Claims 30, 31 and 32 all depend from allowable Claim 19 and add patentably significant limitations to the claim and are allowable for that reason alone. As an example, Claim 30 recites that the substrate surfaces are "entirely smooth in all of the substrate regions that are directly opposite the grooves in the adhesive." As a further example, Claim 31 recites that the grooves are formed in the adhesive "after the adhesive has been applied to the substrate in molten form and cooled".

Rejected independent Claim 20 has been amended and is directed to a binding member which, among other things, includes a substrate and "an adhesive layer disposed over substantially all of [an] elongated region of the substrate" with the layer "including a multiplicity of grooves formed in an exposed surface of the adhesive when the adhesive is in molten form, with a location and depth of such grooves being of a degree such that curling of the binding member along the transverse axis is substantially reduced". As previously noted in connection with Claim 2, none of the cited prior art discloses these claimed features therefore Claim 20 is believed to be allowable. Claim 21 depends from Claim 20 and is allowable for that reason alone. Claim 21 adds the further limitation that "all substrate surfaces directly opposite the grooves in the adhesive are substantially smooth surfaces". As previously noted above in connection with Claim 27, this feature is also not shown in the prior art.

Rejected independent Claim 22 has been amended and is also directed to a binding member which includes a substrate having "an elongated region elongated region for receiving an adhesive on a first substrate surface" and a layer of heat-activated adhesive "disposed over substantially all of the elongated region and no other region of the substrate." Mechanical deformations are "introduced into when the adhesive was in molten form, with the mechanical deformations being of a nature to substantially reduce curling of the binding member along the transverse

axis". In addition, Claim 22 recites that the substrate surfaces "are both substantially smooth in all of the substrate surface regions directly opposite the mechanical deformations". For the reasons set forth above in detail, it is clear that none of the cited prior art discloses any of these claimed features.

Claims 23, 24, 25, 26, 33 and 34 all depend from allowable Claim 22 and add patentably significant limitations to the claim and are thus patentable for that reason alone. By way of example, dependent Claim 33 recites that the substrate is an "elongated substrate" and Claim 34, which depends from Claim 33, recites that "at least a majority of the first surface of the substrate is covered by the heat-activated adhesive".

In conclusion, all pending claims are believed to be in condition for allowance and an early allowance is respectfully requested.

Respectfully submitted,

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Dated: July 26, 2007

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Attorney Docket No. PRKR-4500